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ABSTRACT

This guide for elementary grade teachers is intended to assist in: 1) planning for sequential development of basic skills and understandings in the use of maps and globes; 2) providing concrete experiences for children in primary grades which increase understanding and develop skill in the use of maps and globes; 3) providing extended experiences and systematic study for elementary grade children to enlarge and deepen understandings of maps and globes; 4) selecting appropriate maps and globes for each grade level; and, 5) using suggested techniques for map making. For each grade, specific aims in skills and understandings are accompanied by suggested learning experiences. Books and films for children on the use of maps and globe are listed, along with references for the teacher on geography and social studies in the elementary grades. (JLB)

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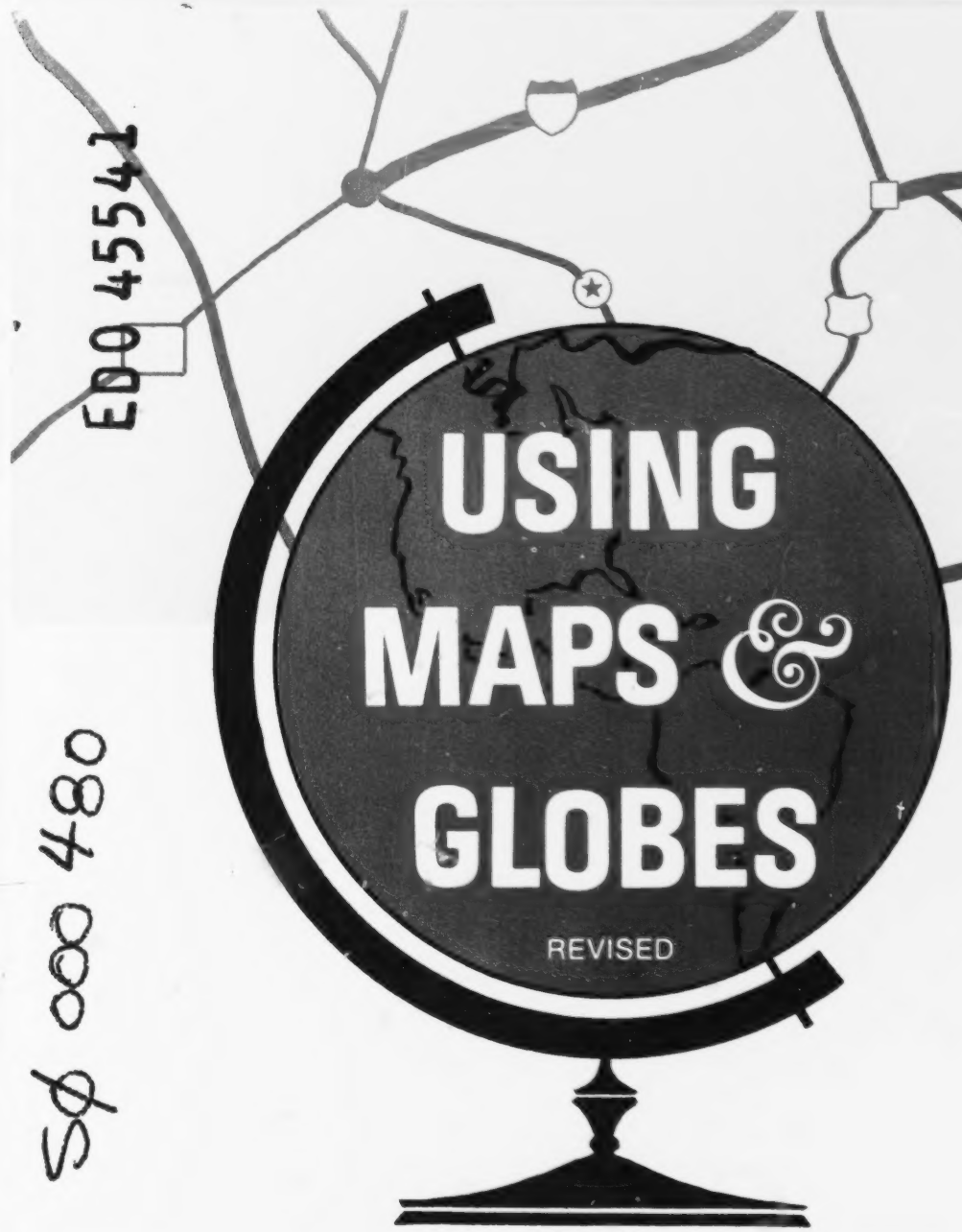

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K-7

Elementary Education Service
State Department of Education
Richmond, Virginia 23216

August 1969

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USING MAPS AND GLOBES

REVISED

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K-7

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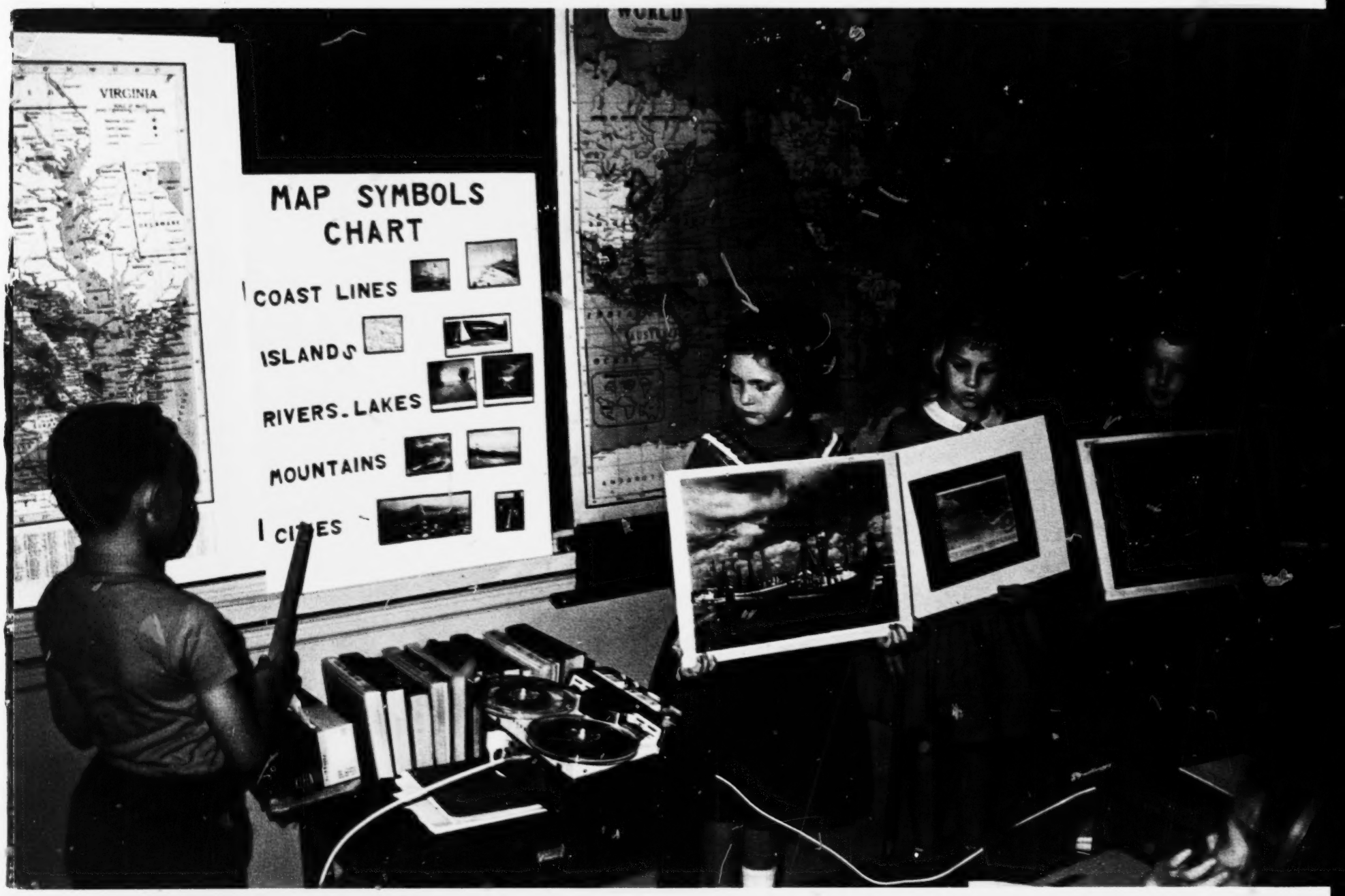
VIRGINIA
MAP SYMBOLS
CHART
COAST LINES
ISLANDS
RIVERS. LAKES
MOUNTAINS
CITIES

FOREWORD

This bulletin has been prepared to assist elementary school teachers in giving greater instructional emphasis to the effective use of maps and globes.

Appreciation is expressed to the Review Committee in assisting the staff of Elementary Education in the revision of the material.

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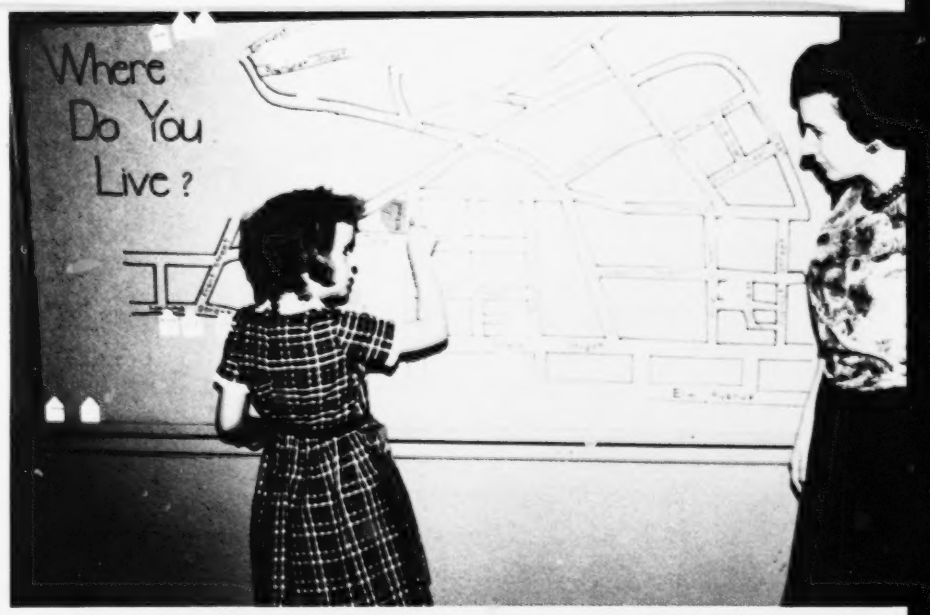
INTRODUCTION



Modern communication and transportation bring world events immediately into homes, and enrich life with goods and services. Increased travel, employment in governmental agencies and industries, and service in the armed forces permit families to visit or reside in many parts of the world. Skill in using maps and globes promotes greater understanding of events that led to the development of the world today.

The ability to read, interpret, and draw conclusions from many types of maps and globes is an integral part of the social studies program. Learning to use maps and globes is a developmental process requiring varied experiences at each grade level. At times, it is necessary to utilize an interdisciplinary approach including science and mathematics to fully develop needed skills and understandings in using maps and globes.

This bulletin is prepared as a guide to assist elementary school teachers in:

—planning for sequential development of basic skills and understandings in the use of maps and globes;
—providing concrete experiences for children in primary grades which increase understanding and develop skill in the use of maps and globes;
—providing extended experiences and systematic study for elementary grade children to enlarge and deepen understandings of maps and globes;
—selecting appropriate maps and globes for each grade level;
—using suggested techniques for map making.

SKILLS, UNDERSTANDINGS, AND LEARNING EXPERIENCES

Kindergarten Through Grade Three

In the primary grades, children are becoming independent in going to and from school, church, stores, movies, and the homes of friends. Trips are taken to other communities by car, bus, train, boat, or plane. Through such experiences children are gaining a sense of direction and extending understanding of time, space, and distance.

Primary children use street signs, road signs, and traffic signals, see movies and television, read appropriate books, magazines, and talk about events, people, and places far and near. Teachers use these experiences in class discussion as children locate places on maps and globes.

A sequential program in the use of maps and globes is necessary in the primary grades. Instruction to develop skills and understandings is based on familiar experiences and is expanded in a manner appropriate to the maturity of children.

The following material includes basic skills and understandings and suggested learning experiences to assist in planning a program appropriate for kindergarten and primary children. Skills and understandings are organized around five main areas:

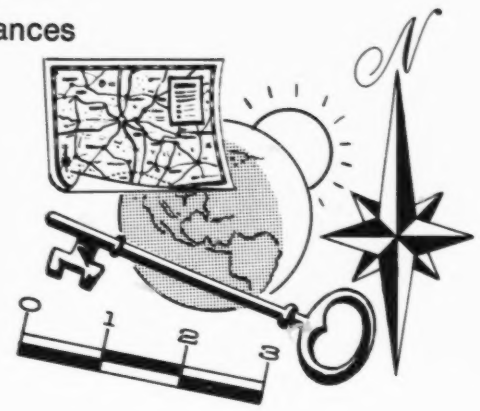
Our Earth: Size, Shape, and Motion

Direction and Location

Scales and Distances

Symbols

Interpretation



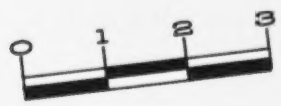
KINDERGARTEN

Our Earth: Size, Shape, and Motion

Skills and Understandings	Suggested Learning Experiences
Begins to understand that the earth is very large	Talk about places children have visited or lived
Begins to recognize that globes represent the shape of the earth	Touch, hold, and talk about globes as models of the earth
	Use clay to model the shape of the earth
	Discuss shape of sun and moon in relation to shape of earth
Understands that a globe may show land and water areas of the earth	Talk about how land and water areas are shown on a globe

Direction and Location

Becomes familiar with school and immediate surroundings	Walk around playground noting areas
	Use building blocks to illustrate way to and from school
Begins to locate self in relation to familiar places	Draw a simple map showing route from home to school
	Locate familiar places on simple picture maps
	Learn home address
	Make a map of community, and attach child-made model of home labeled with appropriate address

	Skills and Understandings	Suggested Learning Experiences
	Becomes aware of cardinal directions	Talk about cardinal directions as related to everyday experiences
	Begins to understand that up is away from the earth and down is toward the earth	Demonstrate meaning of terms up and down through games and other activities
	Begins to understand the meaning of near and far in location of objects	Use objects in classroom to develop awareness of near and far
	Recognizes that a globe can be used to locate places	Locate on globe places visited by children
Scales and Distances 	Begins to understand distance in relation to a fixed point	Walk to places in the school as the principal's office, cafeteria, and library
	Becomes aware of the terms big and little, and large and small to describe relative size	Compare size of objects in the classroom
	Begins to understand relative size	Compare size of doll to a person
		Compare pictures of trees with trees around the school
Symbols	Begins to recognize the globe as a representation of the earth	Place a flag on the globe to locate the State of Virginia

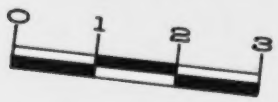
Interpretation

GRADE ONE

Our Earth: Size, Shape, and Motion

Skills and Understandings	Suggested Learning Experiences
Begins to see that pictorial symbols on a map and globe stand for natural and man-made features of the earth	Walk around the school and talk about natural and man-made features Make a floor plan of the classroom using symbols suggested by the class to represent various features of the room
Begins to develop meaning for symbols on simple picture maps	Make simple maps using pictures or models of school and homes
Understands that maps represent the earth or portions of it	Find on maps places children have visited or lived
Distinguishes between land and water areas on maps and globes	Note large bodies of water and land areas on maps and globes
Begins to understand that the earth turns	Illustrate with the globe how the earth turns
Begins to understand that the turning of the earth makes the sun and moon appear to rise in the east and set in the west	Observe the position of the sun at different times of the day Have children whirl on one heel to observe how the walls seem to move in the opposite direction, and relate this to the apparent movement of the sun and moon across the sky

	Skills and Understandings	Suggested Learning Experiences
	Begins to understand that turning of the earth causes day and night	Shine light from filmstrip projector on a rotating group of children facing outward in a circle
	Recognizes that the moon appears to change shape	Observe moon as many times as possible during a month and draw a picture of each view for display
Direction and Location	Begins to understand left and right	Follow directions involving left and right in classroom and school
	Applies cardinal directions to the classroom and playground	Use compass to determine cardinal directions, and label in classroom and on playground
		Observe position of sun at different times of day and relate to cardinal directions labeled on the playground
	Uses terms of location and direction as near, far, up, down, above, below	Involve pupils in activities to show comparative location and direction
		Demonstrate meaning of up and down using model airplane or kite
	Uses large maps of classroom, school, and other familiar places	Draw a map depicting classroom and other parts of the school
		Make simple maps of neighborhood including home and school
		Draw mural of neighborhood attaching child-made pictures or models of places of interest
	Discovers from the globe that there is more water than land on the surface of the earth	Discuss and compare the area of land and water masses

	Skills and Understandings	Suggested Learning Experiences
	Uses maps or globes to locate familiar places	Locate Virginia and the United States on a map or globe Locate places visited by children
Scales and Distances 	Understands that a map is a representation of an area	Tour the school, and make map of the building floor plan
	Compares distances from home to school, playground, park, or shopping center	Trace routes from home to school on a large floor map
Symbols 	Begins to recognize the use of some non-pictorial symbols	Represent home, school, and church by symbols determined with children
	Begins to understand that symbols represent physical features of landscape	Make a large drawing representing land and water areas seen on trips
	Becomes aware of purpose of map legends	Plan a legend to accompany the class map
Interpretation 	Begins to understand purpose and use of maps and globes	Use a simple map to find the way from home to school
	Understands diagrams of the classroom	Draw a diagram of the classroom on the floor or table, and discuss position of objects
	Begins to interpret simple maps of the school	Construct simple maps of the building and playground

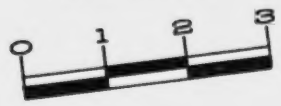
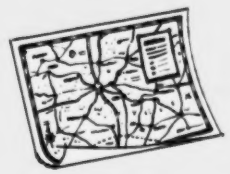
GRADE TWO

Our Earth: Size, Shape, and Motion

Skills and Understandings	Suggested Learning Experiences
Understands that the earth is composed of land and water	Study the globe to discover that land and water cover the earth
Understands that land and water areas vary in shape and size	Visit land and water areas in the community Examine globe to see how land and water areas vary in size and shape
Begins to recognize that the earth always rotates in the same direction causing day and night	Use a rotating globe and a light to demonstrate alternation of night and day
Begins to understand that movement of the earth around the sun causes change of seasons	Record location of sun in relation to a fixed object at different seasons of year

Direction and Location

Learns that most maps show direction and distance	Determine cardinal directions on maps and globes
Understands that there is a North Pole and a South Pole	Discuss stories and pictures of the North and South Poles, and locate poles on the globe
Locate places on a neighborhood map from given directions	Prepare a large map of the neighborhood Point out on neighborhood map routes used in coming to school Use neighborhood maps for practice in locating familiar places

Skills and Understandings	Suggested Learning Experiences
Follows route on a map for a class trip	Draw a map of the route for a trip putting in familiar points
Understands that globes and maps are used to locate places in the news	Discuss and locate places in the news
Begins to recognize that Virginia is a part of the United States; the United States is a part of the continent called North America	Trace outline of Virginia, United States, and North America Make and use cut-out map puzzles
Scales and Distances  	Recognizes that an area on a map represents a much larger area on the earth Make a map of the playground and school Build a model community
	Begins to recognize the need for a scale to find distance between points on a simple map Talk about familiar places, and discover that actual size cannot be depicted on the map Determine unit of measure to be used in making a map of classroom to scale
Symbols 	Uses simple map legends Create symbols to represent and locate objects on simple map
	Understands that legends on maps differ Compare legends on maps of the same area made by different children

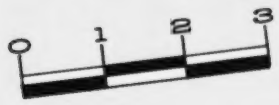
Glenn
Thomas
Judy
Robin
Susan K
Charles
Susan C
Jeffrey
Donald
Valerie
Susan A
Billy
Robert
UNITED STATES

Interpretation

GRADE THREE

Our Earth: Size, Shape, and Motion

Skills and Understandings	Suggested Learning Experiences
Begins to use symbols to indicate directions	Label cardinal direction on classroom maps
Uses symbols for mountains, highways, streets, railroads, rivers, and lakes	Collect pictures of mountains, highways, streets, railroads, rivers, and lakes; and devise symbols to represent each for bulletin board display
	Make a pictorial map using symbols created by the group
Recognizes color as a symbol on maps and globes	Identify land and water areas using color
Understands that maps are a source of information	Discuss information found on maps made by children
Understands that the globe is the most accurate map because it more nearly represents the shape of the earth	Cut open and flatten the peel of an orange to observe distortions resulting from flattening a round surface
Begins to understand why there are seasonal changes	Carry rotating globe with fixed axis tilt around a light to illustrate that revolution causes change of seasons
Begins to understand how time zones are related to rotation of the earth	Discuss differences in time as reflected in news events and scheduling of television programs

	Skills and Understandings	Suggested Learning Experiences
Direction and Location	Becomes aware of intermediate directions	Determine and label northeast, southeast, southwest, northwest in classroom
	Understands that north is toward the North Pole, and south is toward the South Pole on any map or globe	Plan imaginary trips to interesting places around the world using the poles as reference points to determine direction of travel
	Understands the use of the compass as a direction finder	Approximate the location of north by facing the morning sun and raising left arm to point north or facing the evening sun and raising the right arm to point north
		Use a compass to determine cardinal and intermediate directions
	Recognizes land forms on maps and globes: continents, island, mountains, valleys, ridges, and peninsulas	Locate countries and continents with reference to surrounding bays, seas, and oceans
Scales and Distances 	Becomes aware that there is a relationship between distance, speed, and time in travel	Make record of time needed to cover distance between two points by both walking and running
		Make a chart of family trips recording distance, time, and speed
	Understands that a scale on a map is used to find the approximate distance from one place to another	Use scales on a variety of simple maps
		Use pedometer or home-made measuring devices to determine distance

	Skills and Understandings	Suggested Learning Experiences
Symbols	Understands that symbols on maps and globes give information	Make a collection of pictorial maps and discuss symbols used
	Begins to understand that pictorial relief may be used as a symbol	Examine maps and discover uses of color to indicate elevation, land and water masses, and political divisions
	Begins to identify symbols used for boundary lines	Use yarn to show the boundary lines of the United States
Interpretation	Discovers that maps serve many different purposes	Locate major nearby highways on a map
		Locate points of interest on a map and determine distances between points
	Compares the size of the United States with other countries on maps of the same scale	Trace outlines of countries and cut paper patterns to use for comparison of size

SKILLS, UNDERSTANDINGS, AND LEARNING EXPERIENCES

Grades Four Through Seven

In the elementary grades the opportunity exists for teachers to draw upon the more varied experiences and backgrounds of children for developing deeper interest in people and places. The teacher uses this increasing awareness of people and places, the social studies textbooks, and previously acquired skills in planning a systematic study of maps and globes. Emphasis is upon enlarging and extending understandings acquired in the primary grades. In grades four through seven teachers encourage pupils to initiate independent projects, and to use a greater variety of materials in seeking deeper meanings.

The following material includes basic skills and understandings and suggested learning experiences to assist in planning a program appropriate for children in grades four through seven. Skills and understandings are organized around five main areas:

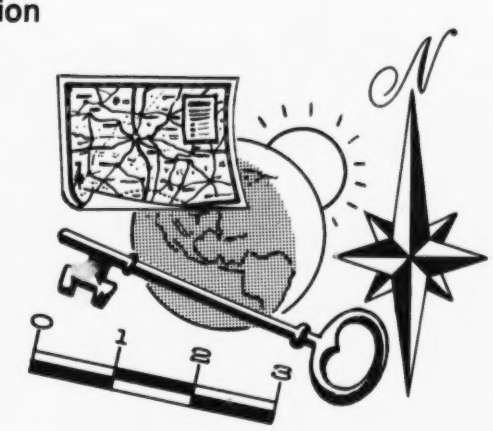
Our Earth: Size, Shape, and Motion

Direction and Location

Scales and Distances

Symbols

Interpretation



GRADE FOUR

Our Earth: Size, Shape, and Motion

Skills and Understandings	Suggested Learning Experiences
Understands that the earth can be divided into hemispheres	Encircle the globe at the equator with string to show that the earth can be divided into Northern and Southern Hemispheres
Understands that any part of the surface of the earth may be depicted on a map	Examine maps of many different areas
Understands that areas of the earth's surface are distorted when represented on a flat surface such as a map	Use a felt pen to outline the continents on an orange; cut open and flatten the peel of the orange to observe distortions resulting from flattening a round surface
	Compare shape of Greenland on globe to the shape on Mercator projection map
Understands that maps and globes are useful in space exploration	Use newspaper, books, and magazines to find maps and stories of space exploration
Begins to understand that the earth revolves in an orbit around the sun as it rotates on its axis	Discuss filmstrip: **Virginia Geography Series, Chapter I, The Earth In Space**
Begins to understand that the tilt of the earth's axis in relation to the orbit around the sun causes the varying length of day and night	Use above filmstrip and plan a way to demonstrate change in seasons using globe and light
	Make a chart to show the length of daylight hours during each month

Direction and Location

Skills and Understandings	Suggested Learning Experiences
Identifies local community on a county and State map	Use a county and State map to locate local community
Discovers and identifies natural and man-made features of the community and State	Identify the natural features of Virginia using a variety of maps and by taking field trips
Locates Virginia in relation to the nation and the world	Study various types of maps and globes to determine the location of Virginia in relation to the nation and to other parts of the world
Locates oceans and identifies adjoining lands	Make maps showing oceans and land areas, and label by name
Begins to understand why parallels of latitude are needed	Locate tropic, arctic and antarctic circles, and the equator
	Use a map or globe to locate areas in relation to the circles and discuss climates
Uses compass to find directions	Take a field trip in immediate area; judge directions by location of sun and shadows, and compare with compass reading for accuracy
Begins to understand the difference between geographic north and magnetic north	Use resource material to determine the difference between geographic north and magnetic north, and locate positions on a globe

	Skills and Understandings	Suggested Learning Experiences
Scales and Distances	Uses scales on maps and globes	Use scale of miles to find approximate distance from school to places of interest in Virginia
	Recognizes that the scale varies on different maps	Consult several maps and check scale
	Discovers that more detail may be shown on large scale maps of a given area	Compare number of places shown on globe to road map of Virginia
Symbols	Understands that many different symbols may be used on maps and globes	Make a pictorial map of Virginia for use as child pretends to be a guide for tourists
	Understands that legends provide information for interpreting symbols	Use legend on county or Virginia map to gain information about areas
	Uses color symbols to gain special information	Make a relief map and denote rivers, deserts, coastlines, and mountains by use of child-selected color symbols
	Determines boundary lines of county, cities, Virginia, and nation	Find land areas and bodies of water of Virginia and the rest of the world
	Understands abbreviations used on maps	Examine maps and globes and discover abbreviations used

Interpretation

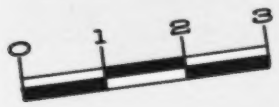
Skills and Understandings	Suggested Learning Experiences
Discovers that some maps can be used to indicate the resources of the State	Make resource maps showing where various products are produced in the State
Consults resource maps to determine occupations of various regions of the State	Discuss occupations involved in production of products
Uses map terms to gain information from maps and globes	Study and use the legend on a map of Virginia
Determines from a relief map the direction in which a river flows	Trace a river on a map from the source to the mouth

GRADE FIVE

Our Earth: Size, Shape, and Motion

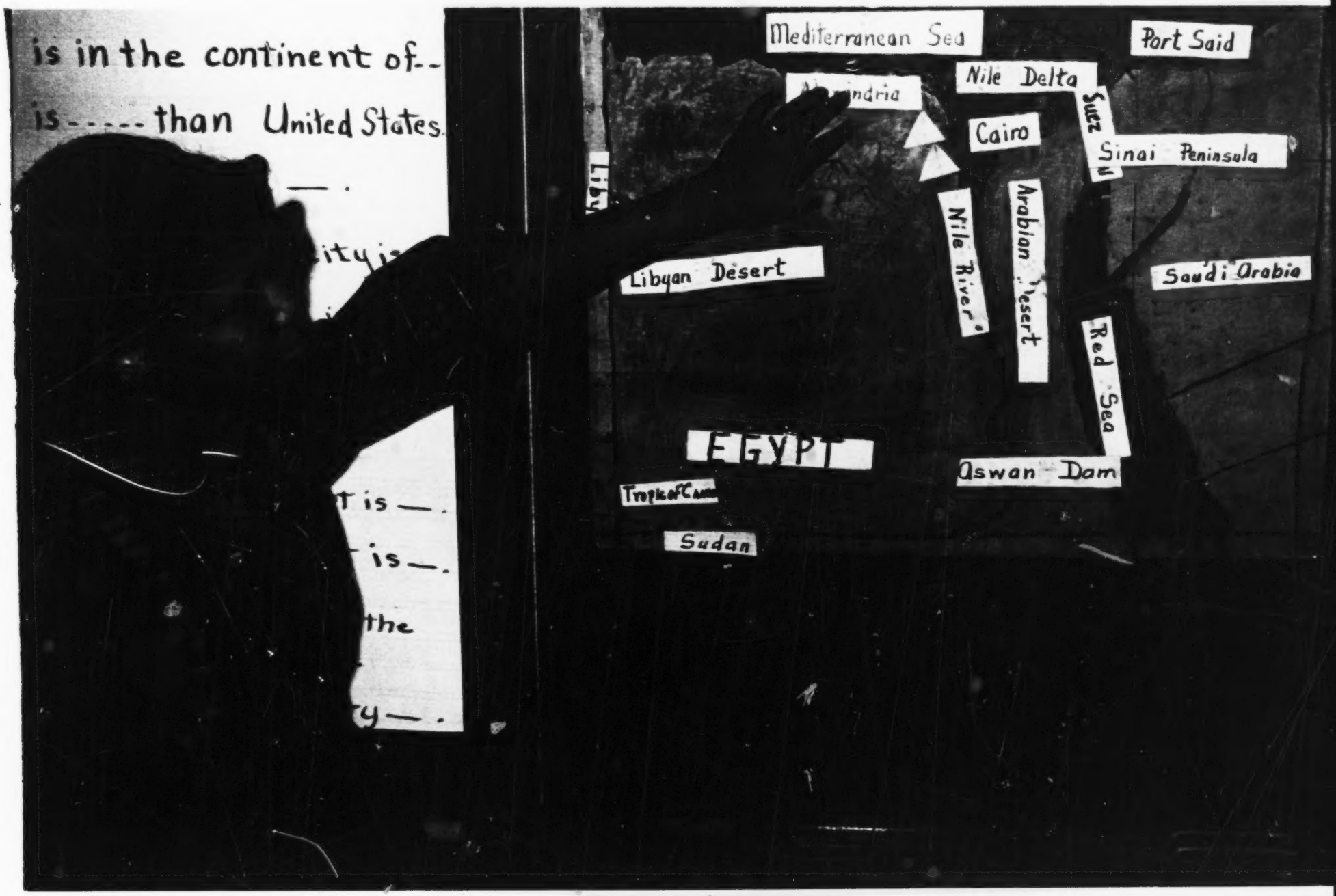
Gains knowledge of the size of the earth	Use resource materials to compare size of Virginia to other states, to United States, and to the world
Understands that the revolution of the earth around the sun determines the length of the year	Use resource material to discover the length of time necessary for the earth to make one revolution
	Use the calendar to discover the relationship of the number of days in a year to the length of time it takes the earth to complete one revolution
Understands reasons for differing length of day and night through the year	Divide class into groups, and ask each group to devise a demonstration or explanation for the differing length of day and night through the year

	Skills and Understandings	Suggested Learning Experiences
	Understands reasons for differing length of seasons at various latitudes	Pretend to live in various parts of Western Hemisphere; compare length of seasons and give reasons for difference
	Recognizes why man has divided the world into time zones	Use maps and globes to relate the time zones to the meridians of longtiude beginning with the International Date Line
Direction and Location	Uses maps and globes to locate natural features which influenced early exploration	Use maps and globes to locate routes of early explorers
	Locates areas where early settlements were made and infers reasons for sites	Trace on relief map routes followed during the development of the country, and locate sites of early settlements
	Understands that the equator, a great circle, is divided into 360°	Examine a globe to determine the number of degrees around the equator and any great circle of the earth
	Begins to understand why meridians of longitude are needed	Find the Prime Meridian which passes through Greenwich, England
	Begins to understand purposes of parallels and meridians on maps and globes	Examine maps and globes to note parallels and meridians, and locate major cities found at the intersection of these lines

	Skills and Understandings	Suggested Learning Experiences
	Begins to understand climatic significance of low, middle, and high latitudes	Study the globe to locate major cities in the world and make a chart labeling location as to low, middle, or high latitudes
	Use World Atlas	Examines the World Atlas to locate information
		Discuss and locate specific places through the use of latitude and longitude
Scales and Distances 	Computes distances on maps and globes of different scales	Plan route for a trip from coast to coast, estimating distance and time
		Use string or measuring tape to find the shortest distance on a globe for plane flights between two places
	Recognizes that latitude is measured in degrees and can be converted to miles	Use degrees of latitude to determine distance—one degree latitude is about 69 statute miles
		Estimate distance between points on maps or globes using scale of miles or latitude
Symbols	Uses geographic symbols with greater understanding	Locate cities and analyze geographic relationship between city and surrounding area
	Learns that some map symbols are standardized	Compare maps to show that many symbols are standardized

	Skills and Understandings	Suggested Learning Experiences
Interpretation	Interprets information represented by symbols on various maps	Prepare maps with legends to illustrate class reports on population centers, principle crops, natural resources, industrial activities, water sheds, topography, and transportation routes
	Interprets abbreviations most commonly found on maps	Find and identify abbreviations on maps
	Compares several maps to gather information about the same area	Compare physical-political map with resource map or rainfall map to draw inferences from information
	Identifies natural and man-made features represented on a map	Locate mountains, plains, rivers, and cities on a map
		Construct maps using pictorial symbols
	Uses maps to determine how geographical features have influenced the history of United States and Canada	Discuss the effect of natural features on the westward movement, location of cities, railroad lines, and highways
GRADE SIX		
Our Earth: Size, Shape, and Motion	Increases understanding of the use of maps and globes in space exploration	Use maps and globes to trace the paths of man-made satellites
	Begins to relate revolution, tilt of axis, latitude, and elevation as factors affecting climatic conditions	Analyze maps to determine climatic conditions of an area in terms of latitude, elevation, and rainfall

Skills and Understandings	Suggested Learning Experiences
	Use climatic and vegetation maps to discover type of climate in various areas
	Study daily weather maps to determine factors affecting climate and weather
Understands significance of the International Date Line	Discuss how crossing the International Date Line affects time
	Use reference books to find deviations of time zones from meridians of longitude and discover reasons for deviations
Direction and Location	
Uses maps for locating countries of the world	Show films and filmstrips of various countries
Uses parallels of latitude and meridians of longitude in determining direction and location	Give the degrees of latitude, and longitude of specific points
Understands relation of low, middle, and high latitudes to the equator and poles	Draw a picture of the globe showing the low, middle, and high latitudes
Understands the effect of ocean currents on the development of countries	Indicate the location of ocean currents and explain the effect on nearby land
Understands the relation of the physical setting to the location of major cities of the world	Discuss the relation of the physical setting to the growth of a specific city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Sudan

	Skills and Understandings	Suggested Learning Experiences
Scales and Distances	Understands use of scale in comparing size of areas	Examine and use the scale on maps and globes to compare land areas of various countries
	Uses scales of distance with greater understanding and proficiency	Have each child imagine traveling around the world, visiting in ten cities of his choice; compute total distance to be traveled using scales on maps
		Estimate distance on maps and globes using scale of miles; travel by car, train, plane, or ship, and estimate time needed to cross each of the following: • widest point of Africa • length and width of Eurasia • expanse of water separating Australia from Asia or Africa
Symbols	Recognizes that elevation is indicated by colors, shading, and/or contour lines	Make relief maps using color, shading, and contour lines to show elevation
	Compares aerial photographs with maps of the same area	Invite resource persons to discuss preparation of aerial maps
Interpretation	Becomes skillful in interpreting a variety of maps	Use resource books to find and use various types of maps
	Interprets maps to assist in understanding history	Use maps to trace the historical development of a nation
	Uses appropiate map for a specific purpose	Select map designed for a given purpose and compare with other maps

GRADE SEVEN

Our Earth: Size, Shape, and Motion

	Skills and Understandings	Suggested Learning Experiences
	Understands interrelatedness of motions of bodies in the solar system	Make a room-sized model of the solar system, and label the period of rotation and revolution for each planet
		Visit a planetarium
	Understands time zones	Determine time in different areas of the world at a given hour
		Discuss reasons for use of Daylight Saving Time
	Understands that size and shape of land areas on some map projections may appear to be distorted	Use various map projections including Mercator to compare distances between meridian at the equator and at the different parallels as they approach the North and South Poles
		Demonstrate why areas may appear to be distorted on some map projections
Direction and Location	Gains knowledge of basic map projections	Review types of maps
	Understands that any place on earth may be located by meridian and parallels	Use a map of Virginia to locate major cities by means of meridians and parallels
	Uses polar projection maps	Compare appearance of polar projection map to other maps

Scales and Distances

Skills and Understandings	Suggested Learning Experiences
Understands that great circle routes represent the shortest distance between points on the surface of the earth	Obtain information to plot routes of polar explorations both on land and under sea Discuss the routes which submarines might use to bring supplies to expeditions in North Pole area Write to different airlines to secure information on use of great circle routes Plot the great circle routes between two cities
Relates physical features of the land to the growth and development of Virginia	Prepare transparencies of Virginia maps showing relation of physical features to: • expansion westward from the coast • principle agricultural activities • centers of population • industrial development • settlement of more isolated parts of the State
Understands the scale used in making a map depends upon the size of the area to be shown and the size of the map to be made	Compare scales used on State, county, and city maps of the same approximate size to demonstrate that smaller scales must be used to map larger areas and that larger scales make possible more detailed maps Select groups to make maps of Virginia using predetermined scale

	Skills and Understandings	Suggested Learning Experiences
Symbols	Becomes aware of linear and aerial scale	Use aerial survey maps to study topography of land
		Visit county office to examine aerial survey maps; note cleared land, forest, and water areas
	Discovers that some information necessary for interpretation is not found in the legend	Use several atlases to gain additional information
	Finds land elevations by using map legend	Use color scheme in map legend to determine elevation of specific areas
	Visualizes nature of areas shown by studying color contour and relief maps	Use maps and globes in conjunction with pictures to analyze the characteristics of areas studied
	Understands that the International Color Scheme shows land elevations and sea depths	Consult resource materials and write reports on the reason for the International Color Scheme
Interpretation	Uses information from maps concerning temperature, rainfall, elevation, growing season, and population to draw inferences about a specific area	Draw inferences concerning occupations and ways of living in similar climates from vegetation maps
		Keep charts on temperature, rainfall, and growing season in local area
		Compare population figures of city or county with other areas
		Use resource person from Geodetic Service

Skills and Understandings	Suggested Learning Experiences
Understands influences of geographical features in the development of land and water routes of Virginia	Determine reasons for location of railroads, major cities, and highways of Virginia
Analyzes some of the geographic contributions and limitations of an area	Prepare population maps, and discuss reasons for concentration
	Discover ways in which man is attempting to solve problems presented by geographical features
Understands reasons for differences between old and new maps	Study early maps of Virginia
	Compare old and new maps and analyze reasons for changes
	Discuss the development of interstate highway system
Investigates the work of the cartographer in map and globe projections	Find out how maps are made

BASIC MAPS AND GLOBES FOR EACH CLASSROOM

GRADES

Kindergarten
- Simplified Globe 16 inch

One
- Simplified Globe 16 inch
- Project Globe 16 inch
- Chalkboard map of World and United States

Two
- Simplified Globe 16 inch
- Project Globe 16 inch
- Chalkboard map of World and United States

Three
- Simplified Globe 16 inch
- Project Globe 16 inch
- Chalkboard map of World and United States
- Beginners United States and World Maps

Four
- Simplified Globe 16 inch
- World Physical-Political Map
- United States Simplified Map
- Virginia Map

Five
- Physical-Political Globe 16 inch
- United States Physical-Political Map
- World Physical-Political Map
- Map of Europe
- Map of North America
- Western Hemisphere Map
- Set United States Historical Maps
- Polar World Map

Six
- Physical-Political Globe 16 inch
- World Physical-Political Map
- European Physical-Political Map
- Set of Historical Maps (Ancient & Medieval)
- Set of Continental Maps
- Polar World Map

Seven
- Physical-Political Globe 16 inch
- Virginia Physical-Political Map
- World Physical-Political Map
- United States Physical-Political Map
- Polar World Map

Additional Resources
- Aerial Maps
- Airline Maps
- Atlas
- Charts
- Continental Maps
- Desk-Size Globes
- Desk-Size Maps
- Elementary Planetarium
- Games
- Geographical Terms
- Historical Maps
- Map Puzzles
- Mercator Projection Map
- Models
- Population Maps
- Products Maps
- Relief Maps
- Road Maps
- Topographical Maps
- Transparencies and Overlays
- Weather Maps

SUGGESTIONS FOR SELECTION, CARE, AND RECORD OF MAPS AND GLOBES

Criteria for Selecting Maps and Globes

In selecting maps and globes for an elementary school, the following criteria may be used:

- Is the map or globe accurate, authentic, and up-to-date?
- Does the map or globe show information suitable for the particular grade level?
- Is the wall map readable from normal classroom distances?
- Does the map have appropriate legends and inserts?
- Is the map or globe durable and practical for classroom use?
- Is there a balanced collection of maps: street, road, political, physical, relief, land-use, vegetation, product, population, historical, weather, and blank outline?

Care and Storage of Maps and Globes

- The principal and the teachers assume the responsibility for care of maps and globes.
- Basic maps and globes should be kept in each classroom.
- Supplementary maps should be stored in a central area, preferably in an adjoining room to the library or materials center.

Preservation of Maps and Globes

- Rack cases for large maps should be provided that will eliminate tearing.
- Flat maps may be mounted with spring rollers and stored in dustproof metal cases.
- Folded paper maps may be kept stacked in flat files found in libraries.
- Surface and color of maps and globes may be preserved by:
  - Cover maps with plastic film
  - Spray maps with plastic film
  - Use plastic cases
  - Use standard wax product for treating surface of globes

Inventory of Maps and Globes

A record of each map and globe owned by the school should be kept for inventory purposes by the principal and other staff members. A separate card for each map or globe may include:

- Name of map or globe
- Date purchased
- Manufacturer
- Size
- Condition at end of each school year
- Location in school

A card record should be prepared for each map and globe and filed in the library as part of the card catalog used by the pupils and teachers. This card should contain the following information:

- Subject title of map or globe, such as Africa, Rivers, and others
- Name of the map or globe
- Brief description of information illustrated on map or globe
- Location in school

HELPS FOR MAP MAKING

Making and Using a Floor Map

A map may be drawn on the floor, or on large sheets of wrapping paper held in place by bricks or rocks. The floor map should be large enough for children to walk on it.

Calcimine solution, tinted green may be used to color sand, plaster of Paris, or papier-maché in order to show grassy lands. Blue-green paper may be used to represent water, clay to build up mountains, and twigs or pieces of dyed sponge to represent forests. Buildings, agricultural products, and people may be added to natural geographical settings. With these materials the child may represent graphically historical events, types of communities, relative densities of population, land and water masses, relation of products to water, trade and transportation routes, and relative locations. The maps should be drawn to scale if possible.

Making a Papier-Maché Map

Papier-maché map may be used successfully to show elevation. The procedure follows:

Tear newspaper into small bits, soak overnight to soften, beat into a soft pulp with

a spoon, drain off excess water, add four tablespoons of paste to each quart of paper pulp, and mix thoroughly.
Trace on heavy cardboard or wood the outline of the area to be shown.
Mold the paper pulp within the outline to show the desired elevations.
Dry thoroughly and paint.
Cover with colorless shellac when paint is dry.

Making Maps Which Roll

Cream or white window shades may be used for maps which can be kept for future reference. Such maps may be used to show location of natural resources, weather, and temperature. Cold water paints or crayons can be used on the window shade material.

Making a Salt and Flour Map

Another type of map may be made by using salt and flour as follows:
Make a dough out of two cups of flour, one cup of salt, and one cup of water.
Outline on heavy cardboard or wood the area to be shown.
Mold the mixture on the outline to show the desired features.
Color the different features with cold water paints after the mixture is thoroughly dry.
Use less salt on damp days or in regions where the humidity is great since salt absorbs water from the atmosphere.

Making a Flat Map

Flat maps may be enlarged by projecting pictures on paper or blackboard using overhead or opaque projector. The projected lines may then be traced to form a map.

Making a Cloth Map

Cloth maps may be made by drawing with crayon on muslin or similar material. Placing cloth map between sheets of wrapping paper and pressing with hot iron causes crayon to melt making a permanent map.

Making a Map of Varied Textures

Materials may be used on a map of a small area to simulate natural and man-made features of the earth. Students may bring in scrap materials that serve as imitations for the features. For example, green or tan corduroy may be used for rows of crops and strips of black construction paper for highways.

SUGGESTED BOOKS AND FILMS FOR CHILDREN

Books

Barker, Ronald S. **The Study Book of Maps.** The Bodley Head, London, 1961.

Brown, Lloyd. **Map Making: The Art That Became a Science.** Little, Brown and Company, Boston, Massachusetts, 1960.

Debenham, Frank. **The Global Atlas—A New View of the World From Space.** Simon and Schuster, New York, N. Y., 1958.

Epstein, Samuel. **The First Book of Maps and Globes.** Franklin Watts, Inc., New York, N. Y., 1959.

Estep, Irene. **Good Times With Maps.** Melmont Publications, Chicago, Illinois, 1962.

Hackler, D. L. **How Maps and Globes Help Us.** Benefic Press, Chicago, Illinois, 1963.

Hathway, James. **The Story of Maps and Map Making.** Golden Press, New York, N. Y., 1966.

Hine, Al. **Where in the World Do You Live?** Harcourt, New York, N. Y., 1962.

Marsh, Susan. **All About Maps and Map Making.** Random House, New York, N. Y., 1963.

McFall, Christie. **Maps Mean Adventure.** Dodd, Mead & Company, Inc , New York, N. Y., 1961.

Rhodes, Dorothy. **How to Read a City Map.** Elk Grove Press, Chicago, Illinois, 1967.

Stanek, Muriel. **How We Use Maps and Globes.** Benefic Press, Chicago, Illinois, 1968.

* Films

Globes: Their Function in the Classroom, Bailey, 1966

Great Circle, Int. Film Bur.

How We Know the Earth Moves, FA, 1960

Map Skills: Using Different Maps Together, Coronet, 1967

Maps for a Changing World, EBF, 1961

Maps—Lands, Symbols, and Terms, Academy, 1956

How We Know the Earth's Shape, FA, 1962

Introducing Globes, Bailey, 1964

Language of Maps, EBF, 1964

Latitude, Longitude, and Time Zones, Coronet, 1966

Maps of Our Locality, Bailey, 1966

Maps of Our School, Bailey, 1966

Maps of Our World, Bailey, 1966

Maps—Where Am I? Cahill, 1966

Teaching Map Reading Skills in Elementary Schools, Bailey, 1966

*See Educational Motion Pictures for Virginia's Public Schools, State Department of Education, 1968, and Supplement, 1969.

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Professional Books

Cross and Cypher. **Audio-Visual Education.** Thomas Y. Crowell Company, New York, N. Y., 1961.

Erickson, Carlton. **Fundamentals of Teaching With Audio-Visual Technology.** Macmillan, 1965.

Erickson, Carlton. **Administering Instructional Media Programs.** Macmillan, 1968.

Freedman and Berg. **Classroom Teachers Guide to Audio-Visual Materials.** Chilton Company, Philadelphia, Pa., 1961.

Gabler, Robert E. **A Handbook for Geography Teachers.** National Council for Geographic Education, Illinois State University, Normal, Illinois, 1966.

James, Linnie B. and Crape, LaMonte. **Geography for Today's Children.** Appleton-Century Crofts, New York, 1968.

James, Preston E. (Editor). **New Viewpoints in Geography.** 29th Yearbook, National Council for the Social Studies, NEA, Washington, D. C., 1959.

Jarolimek, John. **Readings for Social Studies in Elementary Education.** Macmillan, New York, N. Y., 1965.

Jarolimek, John. **Social Studies in Elementary Education.** The Macmillan Company, New York, N. Y., 1967.

Jarolimek, John. **Social Studies Education: The Elementary School.** National Council for the Social Studies, NEA, Washington, D. C., 1967.

Michaelis, John U. **Social Studies for Children in a Democracy.** 2nd Edition, Prentice-Hall, Inc., Englewood Cliffs, N. J., 1963.

National Council for the Social Studies. **Skill Development in Social Studies.** 33rd Yearbook, NEA, Washington, D. C., 1963.

Preston, Ralph C. **Teaching Social Studies in the Elementary School.** Holt, Rinehart and Winston, 1968.

Ragan, William B. **Social Studies for Today's Children.** Appleton-Century Crofts, New York, N. Y., 1964.

Sabaroff, Rose. **Geography and Teaching of Social Studies —Concepts and Skills.** Houghton-Mifflin, Atlanta, Georgia, 1966.

Thomas, R. Murray and Swartout, Sherwin G. **Integrated Teaching Materials.** Longman's Green and Company, Inc., New York, N. Y., 1960.

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"Big World Globe." November, 1965.

"From A Beach Ball." November, 1965.

"Teaching With Road Maps." November, 1965.

Kohn, Clyde F. **Guide to Effective Globe Usage.** A. J. Nystrom and Company, Chicago, Illinois, 1967.

A. J. Nystrom and Company. **Journal of Geography.** Chicago, Illinois.

Anderzhon, Mamie L. "Geographic Concepts in the Space Age." January, 1961.

Bathurst, Leonard H. "Developing Map Reading Skills." January, 1961.

Christophel, Edna. "Checking Map Reading Skills in the Elementary Grades." September, 1961.

Davis, Dorothy H. "The Project Globe—A Teaching Tool." November, 1967.

Dekker, Marian and Siamis, Winnifred. "Developing Geographic Concepts in the Primary Grades." February, 1961.

Drumheller, Sidney J. "Conjure Up a Map—A Crucial But Much Neglected Skill." March, 1968.

Edwards, John Hayes. "Who Can Find It on the Wall Map?" February, 1968.

Goodman, James M. and Greisch, Richard G. "A Wall Map Storage Unit." November, 1967.

Gritzner, Charles F. and Larimore, Philip B. "Media Available Within the Local Environment." May, 1967.

Gross, Herbert. "Globes for Classroom Use." May, 1967.

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Miller, E. Joan. "Making Land Utilization Maps: Work in the Field With Nine Year Old." April, 1959.

Resnick, Abraham. "The Student-Made Outdoor Map." April, 1966.

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